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Structure and transport properties of stephanite (Ag 5SbS 4) according to antimony nuclear quadrupole resonance

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Abstract

Silver sulfo-antimonide Ag 5SbS 4 (stephanite) has been studied by nuclear quadrupole resonance (NQR) spectroscopy on antimony nuclei. The temperature dependences of the spectroscopic and relaxation parameters have been examined in the range of 4. 2-395 K. A phase transition at 140 K and internal motions with an activation energy of 0. 29 eV have been experimentally detected. The nature of the phase transition and diffusion of silver ions has been discussed in view of the reported data. © 2012 Pleiades Publishing, Ltd.

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